Portable Navigation Products Snapshot

April 4, 2005

NAVTEQ

Navigation Application Comparisons

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Portable Navigation

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Summary of PND and PDA Applications

Portable Navigation

- 39 units
  - 10 Hard Drive units
  - 8 use TeleAtlas data
  - 12 are priced between $600 and $1000
  - 11 priced over $1000

PDA Devices

- 21 units
  - 7 use TeleAtlas data
  - 9 PPC only
  - 2 Palm only
  - 5 have versions for both PPC and Palm

Portable Navigation Devices

	TomTom Go	TomTom Go700	TomTomGo 300	TomTom RIDER	Lowrance iWay 500c	Cobra NavOne
MSRP (or MAP)	$799	Available June	Available May	Avaialble 2005	$999	$1,299
Street Price	$629				$799	$949
Storage	256MB	2.5 GB	32MB RAM	64MB RAM	20GB	9GB
Storage Type	Flash	Hard Drive	Flash	Flash	Hard drive	Hard drive
Map Upload	USB	USB	USB	USB	USB	USB
Dead Reckoning	No	No	No	No	No	Gyro
Display Size	3.5"	3.5"	3.5"		5"	5.2"
Resolution	320x240	320x240	320x240		320x240	320x240
Voice Prompts	Yes	Yes	Yes	Yes	Yes	Yes
Touch Screen	Yes	Yes	Yes	Yes	Yes	?
Remote Control	No				No	No
Map	TA	TA	TA	TA	NAVTEQ	NAVTEQ
GPS Chipset	?			SiRF StarIII	?	SiRF
Comments	New Go+ contains entire US map on flash cards	Bluetooth connectivity for TomTom PLUS service(traffic, weather, other downloads)	Bluetooth connectivity for TomTom PLUS service(traffic, weather, other downloads)	Designed for the Motorsycle Market - weatherproof	Includes MP3 player - 10GB of hard drive can hold music	Poor rating from PC Magazine: 1.5/5 stars

Portable Navigation Devices

	MiTac Mio 168	Mitac Mio136	MiTac Mio 268	MiTac Mio 269	Garmin c320	Garmin c330
MSRP (or MAP)	$550				$749	$964
Street Price	$449	$449			$699	$899
Storage	128MB	32MB	64MB RAM	2.5GB	128MB	
Storage Type	Flash	Flash	Flash	Hard Drive	Flash	Hard Drive
Map Upload	USB				USB	
Dead Reckoning	No	No	No	No	No	
Display Size	3.5"	3.5"	3.5"	3.5"	2.8"x2.1"	2.8"x2.1"
Resolution	320x240	320x240	320x240	320x240	320x240	320x240
Voice Prompts	Yes	Yes	Yes	Yes	Yes	Yes
Touch Screen	Yes	Yes	Yes	Yes	Yes	Yes
Remote Control	No	No	No	No	No	No
Map	NAVTEQ	NAVTEQ	NAVTEQ	NAVTEQ	NAVTEQ	NAVTEQ
GPS Chipset	?	?	?	?	In-house	In-house
Comments	Vehicle mount seems to be extra		Europe product	Europe product		

Portable Navigation Devices

	Garmin 2610	Garmin 2620	Garmin 2650	Garmin 2660	Garmin GPS V	Garmin SP III	Garmin Quest
MSRP (or MAP)	$999	$1,299	$1,199	$1,499	$321	$787	$643
Street Price	$600	$850	$1,100	$1,300	$245	$500	$500
Storage	128MB	2-3 GB	128MB	2-3 GB	19MB	128MB	115MB
Storage Type	Flash card	Hard Drive	Flash card	Hard Drive	Internal	Flash card	Flash (internal)
Map Upload	USB	USB	USB	USB	RS-232	RS-232	USB
Dead Reckoning	No	No	Cable	Cable	No	No	No
Display Size	3.3"x1.7"	3.3"x1.7"	3.3"x1.7"	3.3"x1.7"	2.2"x1.5"	3.4"x1.8"	2.2"x1.5"
Resolution	305x160	305x160	305x160	305x160	256x160	305x160	160x240
Voice Prompts	Yes	Yes	Yes	Yes	No	Yes	Yes
Touch Screen	Yes	Yes	Yes	Yes	No	No	No
Remote Control	Yes	Yes	Yes	Yes	No	No	No
Map	NAVTEQ	NAVTEQ	NAVTEQ	NAVTEQ	NAVTEQ	NAVTEQ	NAVTEQ
GPS Chipset	In-house	In-house	In-house	In-house	In-house	In-house	In-house
Comments			Requires connection to vehicle speed sensor	Requires connection to vehicle speed sensor		To be discontinued soon	Started August 2004; selling well so far

Portable Navigation Devices

	Garmin iQue M5	Garmin iQue 3200/3600	Magellan Meridian Gold	Magellan RoadMate 300	Magellan RoadMate 500	Magellan RoadMate 700	Navman iCN 510	Navman iCN 630
MSRP (or MAP)	$749	$599		$699	$1,050	$1,300	$750	$999
Street Price	$699	$520	$175	$580	$850	$1,050	$500	$549
Storage	64MB	32MB	16MB	110MB	128MB	5GB	32MB	128MB
Storage Type	Flash	Flash	CF	Flash	Flash	Hard drive	Flash	Flash
Map Upload	USB	USB	16Mb built in	USB	USB	USB	USB	USB
Dead Reckoning	No	No		No	No	No	No	No
Display Size	3.5"	3.2"x2.1"		2.25"x3"	2.25"x3"	2.25"x3"	3.5"	
Resolution	320x240	480x320		?	?	?	320x240	320x240
Voice Prompts	Yes	Yes		Yes	Yes	Yes	Yes	Yes
Touch Screen	No	No		Yes	Yes	Yes	Yes	Yes
Remote Control	No	No		No	No	No	No	No
Map	NAVTEQ	NAVTEQ		NAVTEQ	NAVTEQ	NAVTEQ	TA	TA
GPS Chipset	In-house	In-house		In-house	In-house	In-house	SiRF	SiRF
Comments				Available November, 2004		Recent firmware upgrade allows display of NA or EU maps	Available November, 2004	

Portable Navigation Devices

	Navman iCN 650	Navman PiN PPC	Emerson NV-5000	ALK Copilot Live	Delphi Mobile Navigation	Vcommand
MSRP (or MAP)	$1,200	$750	$899		$700	
Street Price	?	$399	$665	$476	$700	$1,200
Storage	?	64MB	128MB	64MB SD	64MB	20GB
Storage Type	Hard drive	Flash	Internal	Flash	Flash	Hard drive
Map Upload	USB	USB	USB	USB	USB	?
Dead Reckoning	No	No	No	No	No	No
Display Size	3.8"	3.5"	?	3.5"	3.8"	n/a
Resolution	?	320x240	?	320x240	320x240	n/a
Voice Prompts	Yes	Yes	Yes	Yes	Yes	Yes
Touch Screen	Yes	Yes	?	Yes	No	n/a
Remote Control	Yes	No	No	No	No	n/a
Map	TA	TA	NAVTEQ	ALK	NAVTEQ	NAVTEQ
GPS Chipset	SiRF	SiRF	?	?	SiRF	?
Comments			Software by Pharos; OS by Windows CE	Vehicle mount seems to be extra	Re-branded Navman iCN 630	Supposedly on their last legs

Portable Navigation Devices

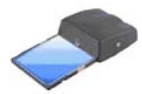
	Pharos EZ Road	Sanyo NV-E7000	DUAL	Protech Link PL532	Polstar Road Mentor PRM1000	Wayfinder Compass and In/Out Thermometer
MSRP (or MAP)	?	$1,500	Available soon			
Street Price	$550	$1,080		?	?	$70
Storage	128MB	n/a		32MB	32MB	
Storage Type	Flash	DVD disc	DVD	Compact Flash	SD card	na
Map Upload	USB	No	No	Yes	Yes	na
Dead Reckoning	No	No	No	No	No	na
Display Size	?	7"		5"	3.5"	?
Resolution	?	336,960 pixels		320x240	262,144 color LCD	?
Voice Prompts	Yes	Yes	Yes	Yes	Yes	
Touch Screen	Yes	No	Yes	Yes	Yes	
Remote Control	No	yes	No	No	No	
Map	NAVTEQ	NAVTEQ	NAVTEQ	NAVTEQ	NAVTEQ	none
GPS Chipset	?	Microstip Plane antenna				
Comments	Available soon	Mobile DVD player with A/V in/out	Also a portable DVD player	Netropa software	US, Canada and WesternEurope Netropa software	TeleAtlas partner in EU

PDA Products

	Pharos PFT22	Dell GPS Navigation	HP GPS Navigation	Mobile Crossing WayPoint 100/200	Netropa Intellinav	Deluo Routis
MSRP (or MAP)		$229	$329			
Street Price	$195	$229				
Storage						
Storage Type						
Map Upload	US	US	US and Canada			
Dead Reckoning	No	No	No		No	
Device Type	Toshiba Microsoft	Dell Axiom or other PPC device with Bluetooth	HP iPAQ or other PPC device with Bluetooth		PPC	
Software	Ostia Navigation	Netropa	Netropa	Mapopolis	Netropa	Netropa
Voice Prompts	Yes	Yes		Yes	Yes	
Accessories Included	MobilePak includes a vent-mounted PDA holder, and universal car adaptor, and an auxilliary external antenna for the receiver.	12 V DC Auto adapter, Mount	Auto adapter Vehicle mount			
Remote Control		No	No	No		
Map	TeleAtlas	NAVTEQ	NAVTEQ	NAVTEQ	NAVTEQ	NAVTEQ
GPS Chipset	Compact Flash Card	SiRF Bluetooth Receiver	SiRF Bluetooth Receiver	Compact Flash GPS		
Comments						could not find the product, do not know if it still exists

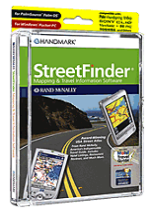
PDA Products

	TomTom NAVIGATOR5	TomTom Navigator 2004	TomTom Navigator2004	TomTom Navigator 2004	Mapopolis Bluetooth GPS	Mapopolis Serial GPS	Mapopolis Serial GPS for Palm	Mapopolis CF GPS
MSRP (or MAP)	Avaialble Soon	$149	$299	$249	$349	$249	$199	$299
Street Price								
Storage								
Storage Type	Flash		Flash	Flash	Flash	Flash	Flash	CF
Map Upload	US and Canada	US and Canada	US and Canada	US and Canada	US and Canada	US and Canada	US and Canada	US and Canada
Dead Reckoning	No				No	No	No	No
Device Type	PPC	PPC or Palm	PPC or Palm	PPC or Palm	Palm or PPC	Palm or PPC	Palm	PPC
Software	TomTom	TomTom	TomTom	TomTom	Mapopolis	Mapopolis	Mapopolis	Mapopolis
Voice Prompts	Yes	Yes	Yes	Yes	Yes	Yes	No	Yes
Accessories Included	DC adapter and GPS Receiver	software and maps only, GPS is not included	Power cords, Bluetooth GPS receiver	Wired GPS receiver	Maps, GPS, car power adapter	Maps, GPS, car power adapter	Maps, GPS, car power adapter	
Remote Control	No	No	No	No				
Map	TeleAtlas	TeleAtlas	TeleAtlas	TeleAtlas	NAVTEQ	NAVTEQ	NAVTEQ	NAVTEQ
GPS Chipset								
Comments		software and maps only, GPS is not included	A separater product for each platform, same price.	A separater product for each platform, same price.	European versions of Mapopolis products are available	European versions of Mapopolis products are available	European versions of Mapopolis products are available	European versions of Mapopolis products are available



PDA Products

	Ambicom Bluetooth GPS Navigation	Visuaide Trekker 2.0	HSTC Destinator	Pharos GPS w/ Dell X30/312 PDA	Rand McNally StreetFinder NAV Deluxe	Socket Bluetooth GPS Naviagation Kit	IO Gear GBGPS201
MSRP (or MAP)					$34		
Street Price	$229		$249	$474	$34	$339	$299
Storage							
Storage Type			Flash				Compact Flash
Map Upload	US and Canada	US	US and Canada				US and Canada
Dead Reckoning	No	No	No				No
Device Type		PPC	PPC		PalmOS		PPC
Software		Visuaide	Destinator	Ostia		Netropa	Netropa
Voice Prompts		Yes		Yes			Yes
Accessories Included			cigarette lighter adaptor/ charger and cables, plus durable canvas travel pouch				1 AC-DC charger 1 Car charger 1 Carrying Pouch 1 Neck Strap
Remote Control							
Map	NAVTEQ	NAVTEQ	NAVTEQ	TeleAtlas	TeleAtlas	NAVTEQ	NAVTEQ
GPS Chipset							
Comments		specifically designed for the visually impaired	products are available for US Cananda and Europe		very poor user reviews		



Laptop Applications

	DeLorme Earthmate GPS Receiver with Street Atlas USA	Microsoft Streets and Trips 2005 w/GPS Locator	Microsoft Streets and Trips	NAVMAN GPS E series for notebook computers	ALK Co-Pilot Laptop 8	Mobile Crossing
MSRP (or MAP)					299-329	
Street Price	$129	$129	$39	$116	299-329	$139
Storage						
Storage Type						
Map Upload						
Dead Reckoning	No	No	No		No	No
Device Type						
Software	DeLorme	Microsoft	Micorsoft	Rand McNally	Co-Pilot Live	Mobile Crossing
Voice Prompts						
Accessories Included				Rand McNally StreetFinder Deluxe Travel Navigation Software, USB connector and windshield mounting bracket.	GPS receiver, quick start guide	GPS receiver, software and instructions, external antenna
Requirements				USB port	USB, serial port or bluetooth for GPS	Uses PC/MCIA slot
Map	DeLorme	NAVTEQ/TA	NAVTEQ/TA	TeleAtlas		
GPS Receiver	Yes	Yes	No	Yes	Bluetooth or wired GPS available	Yes
Comments